

COMMONWEALTH OF VIRGINIA
Department of Environmental Quality
South Central Regional Office

STATEMENT OF LEGAL AND FACTUAL BASIS

Dominion Resources, Inc.
5000 Dominion Boulevard, Glen Allen, Virginia
Permit No. SCRO30867

In accordance with the Air Pollution Control Law of Virginia §10.1-1308 and §10.1-1322, the Environmental Protection Agency (EPA) Final Full Approval of the Operating Permits Program (Titles IV and V) published in the Federal Register December 4, 2001, Volume 66, Number 233, Rules and Regulations, Pages 62961-62967 and effective November 30, 2001, and Title 40, the Code of Federal Regulations §§72.1 through 76.16, the Commonwealth of Virginia Department of Environmental Quality issues this permit pursuant to 9 VAC 5 Chapter 80, Article 3 of the Virginia Regulations for the Control and Abatement of Air Pollution (Federal Operating Permit Article 3).

Engineer/Permit Contact

Date: _____

Air Permit Manager:

Date: _____

Regional Director:

Date: _____

FACILITY INFORMATION

Permittees

Virginia Electric and Power Company,
Old Dominion Electric Cooperative
5000 Dominion Boulevard
Glen Allen, VA 23060

Facility

Clover Power Station
P.O. Box 245
Route 92
Clover, Virginia 24534-0245

County-Plant Identification Number 51-083-0046

SOURCE DESCRIPTION

NAICS Code - 221112 Clover Power Station (Clover) manufactures electricity for sale. Clover has two main boilers each rated at 4,085 MM Btu/hr with its associated coal, limestone, lime, ash, and fuel storage handling systems. The facility is major for PM, PM₁₀, SO₂, NO_x, and CO. A state operating permit (dated October 28, 2002) limits daily emissions of arsenic, cadmium, chromium, formaldehyde, chlorine (as HCl), manganese, nickel, and selenium from the main boilers. Since these boilers are electric generating units, they are subject to the acid rain, NO_x Budget Trading and Clean Air Interstate Rule (CAIR) Programs.

The facility also operates a synthetic fuel plant (Synfuel Plant) which commenced operation June 1, 2005. The synfuel process conveys raw coal from a coal storage area to a crusher (as needed), then to the Synfuel Plant where the coal is mixed with water and latex binder to form briquettes.

Emissions from the Synfuel Plant are particulate matter (PM, PM-10) and volatile organic compounds (VOCs). Particulate matter emissions from the Synfuel Plant are controlled by partial enclosure, dust collector, and wet suppression (where applicable). VOC emissions from the binder are uncontrolled. The Synfuel Plant NSR permit is dated October 7, 2004 as amended May 4, 2005.

COMPLIANCE STATUS

A full compliance evaluation of this facility, including a site visit, was conducted on August 23, 2007. In addition, all reports and other data required by permit conditions or regulations, which are submitted to DEQ, are evaluated for compliance. Based on these compliance evaluations, the facility has not been found to be in violation of any state or federal applicable requirements at this time.

CHANGES TO THE TITLE V PERMIT

This renewal permit includes the following changes since the significant modification on November 2, 2006:

- Update the responsible official and permittee (Section I)
- Inclusion of CAM applicability conditions (Section III)
- Change Article 1 (Title V) citations to Article 3 (Title IV) citations
- Inclusion of Title IV requirements (Section XII)
- Inclusion of NO_x Budget Trading requirements (Section XIII)
- Inclusion of CAIR requirement (Section XIV)
- Inclusion of October 3, 2003 VEPCO Consent Decree requirements (Section XV)
- Attachments:
Acid Rain and CAIR applications (Appendix A)
VEPCO 2003 Consent Decree (Appendix B)

EMISSION UNIT AND CONTROL DEVICE IDENTIFICATION

The emission units and control device information are in Section II of the Acid Rain Permit.

EMISSIONS INVENTORY

The 2006 annual emission update is summarized in the following tables:

	2006 Criteria Pollutant Emissions (ton/year)				
Emission Unit	VOC	CO	SO ₂	PM ₁₀	NO _x
ES-1	17.26	169.94	890.20	34.04	4886.1
ES-2	85.22	169.91	964.30	34.01	5149.0
ES-3	0	0	0	0	0
IS-1	0.003	0.024	0	0.001	0.09
Synfuel Plant	1.99	---	---	1.79	---
Total	104.473	339.874	1854.50	69.841	10,035.19

Pollutant	Hazardous Air Pollutant Emissions (ton/year)
HCl	36.592
HF	3.366
Pb	0.070
Styrene*	0.273

Vinyl Acetate*	1.511
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*Styrene and vinyl acetate emissions are from Synfuel Plant operations.

EMISSION UNIT APPLICABLE REQUIREMENTS

The following sections of the Acid Rain Permit discuss applicable requirements for emission units at Clover governed by NSR permits dated September 4, 2002 (PSD for facility) and May 4, 2005 (Synthetic Fuel Plant), and applicable federal requirements. The specific conditions from these permits are summarized.

SECTION III – Primary Boilers (ES-1, ES-2)

Limitations

The primary boiler's operating emissions are limited by the NSR permit dated 9/4/02 (PSD) and 40 CFR 60 Subpart Da requirements. The Acid Rain Permit include NSPS Subpart Da requirements (unless permit is more restrictive); emission controls for PM, SO₂, and NO_x, approved fuels, sulfur content restrictions, storage tank requirements, non-criteria pollutant startup restrictions, fuel throughput, criteria pollutant emission limit, and a visible emission standard.

Monitoring

Boiler emissions are generated and monitored through continuous emission monitors (CEM) to satisfy 40 CFR Subpart Da.

Recordkeeping

Records of fuel oil (No.2) analysis (certification), fuel usage (coal and oil) CEM data, and operator training must be kept to demonstrate compliance. Records shall be current for the most recent five (5) years.

Testing

Stack testing for PM and PM₁₀ is required once every five years to demonstrate compliance with the short-term limits.

Reporting

Quarterly fuel quality reports to include the dates of period, a copy of all fuel supplier certifications, CEM data, and a signed statement from the facility owner or operator certifying the No.2 and "low sulfur" fuel shipments received or burned.

Compliance Assurance Monitoring (CAM)

Clover's current Title V permit expires December 31, 2007. Subsequently, they are required to evaluate compliance assurance monitoring (CAM) plan upon permit renewal for all pollutant-specific emissions units (PSEU).

According to 40 CFR 64 (Part 64), CAM applies to PSEUs at major sources that are required to obtain a part 70 or 71 permit if the unit satisfies all of the following criteria:

- The unit is subject to an emission limitation or standard;
- The unit uses a control device to achieve compliance with emission limits or standards;
- The unit has potential (pre-control) emissions that exceed major source thresholds (MST).

In order to meet the definition of PSEU, Clover's primary boilers must satisfy all three criteria above. The primary boilers qualify as PSEUs for PM₁₀, sulfur dioxide (SO₂) and NO_x. A review of each pollutant's subjectivity to CAM is as follows:

- i) NO_x emissions are controlled by "low NO_x and advance over-fire air burner" which is not considered a control device according to §64.1, and is therefore exempt from CAM 64.
- ii) SO₂ emissions are determined to be exempt from CAM (per §64.2 (b) (vi)) since the boiler's were previously required by Part 70 to employ a continuous compliance method for monitoring emissions (e.g., CEM).
- iii) PM₁₀ emissions are not exempt from Part 64 requirements. The facility proposes to use each boiler's continuous opacity monitors (COMS) with its associated QA/QC procedures and reporting commitments as required by the Acid Rain Permit. According to 40 CFR 64.3, COMS satisfies applicable monitoring requirements and performance specifications. CAM requirements for particulate matter (PM-10) are included in the main boiler section of the Acid Rain Permit. Conditions III.B. 4 through 13 contain the CAM requirements for boiler's particulate matter.

SECTION IV – Auxiliary Boiler (ES-3)

Limitations

The auxiliary boiler's operating emissions are limited by the NSR permit dated 9/4/02 (PSD) and 40 CFR 60 Subpart Db requirements. The Acid Rain Permit includes NSPS Subpart Db requirements (unless permit is more restrictive), fuel oil heat value (Btu) and sulfur content restrictions, good combustion practices, criteria pollutant emission limits for PM/PM₁₀, SO₂, NO_x, CO, and VOC, restrictions not to operate when the primary boilers are "on-line", and a visible emission standard.

Monitoring

Continuous Emission Monitoring (CEM) is used to generate emission data and to monitor emissions per 40 CFR Subpart Db requirements. The auxiliary boiler is exempt from CAM; this

unit does not employ any pre-control device to limit pollutant emissions.

Recordkeeping

Records of fuel oil (No.2) analysis, fuel usage, CEM data, and operator training must be maintained to show compliance. Records shall be current for the most recent five (5) years.

Testing

The facility shall be constructed to allow for emissions testing.

Reporting

The required reporting includes semi-annual fuel quality reports.

SECTION V - Coal, Ash, Limestone, and Lime Handling Operations (ES-4 a-o, ES-7 a-c, ES-5 a-d and ES-6 a-b)

Limitations

Coal, ash, limestone, and lime handling operating emissions are as designated by NSR permit dated September 4, 2002, 40 CFR 60 Subpart Y (coal handling), and 40 CFR 60 Subpart OOO (limestone handling) requirements. Particulate emissions from coal, ash, limestone, and lime handling operations require fabric filter dust collectors on all hopper feeders and silos. Fugitive emissions are controlled by total enclosures, weather tight covers (outside conveyors), and wet suppression. Reserved stockpiles are treated with crusting agents to minimize emissions during storage and wet suppression for loading and unloading operations. Particulate emission control techniques comply with the visible emission limits established for handling operations.

Monitoring

Weekly visible emission (VE) observations from fabric filter exhaust stacks are required. The coal, ash, limestone, and lime handling operations all use fabric filters to control particulate emissions from hopper feeders and silos. A worst case scenario considered coal handling operations as a basis for estimating CAM applicability for all handling operations. Supporting calculations used AP-42 13.2.4 "Miscellaneous Sources - Aggregate Handling and Storage Piles" emission factors. Pre-control emissions for coal handling are determined as follows:

Coal throughput = Boilers maximum burn rate = 2,862,768 ton/yr
Emission factor = 0.0026 lb-PM₁₀/ton

$2,862,768 \text{ ton/yr} \times 0.0026 \text{ lb/ton} \times 1 \text{ ton}/2000 \text{ lb} = 3.72 \text{ ton/yr PM}_{10}$

Since pre-control coal handling particulate emissions are significantly less than 100 tpy, all other handling particulate emissions (limestone, lime, and fly ash) are expected to be less than major source thresholds. CAM does not apply to the coal, ash, limestone, and lime

handling operations.

Recordkeeping

Records of VE observations and any corrective action shall be maintained. VEs during start-up, shut-downs, and malfunctions are not required. Records shall be maintained for the most recent five (5) years.

Testing

The facility shall be constructed to allow for emissions testing of coal and ash handling equipment.

Reporting

None required.

Testing

The facility shall be constructed to allow for emission testing at any time.

SECTION VI – Emergency Generators (IS-1)

Limitations

The emergency generator's operating emissions are limited by the NSR permit dated September 4, 2002 (PSD). Emissions from the emergency generator operations are controlled by low sulfur fuel and restricted hours of operation. A visible emission limit is also included.

Monitoring & Recordkeeping

Monitoring of emergency generator operations is maintained through fuel supplier certification information and records of operating hours. The records are to be maintained for the most recent five (5) years. NO_x emissions for the emergency generators (2@1500 KW each) exceed 100 tpy; however the units do not employ add-on control device, so CAM would not apply.

Testing

The facility shall be constructed to allow for emissions testing (as needed) of the emergency generators.

SECTION VII – Synthetic Fuel Plant

Limitations

Synfuel plant operation emissions are limited by the NSR permit dated May 4, 2005 and 40 CFR 60 Subpart Y (crusher) requirements. The plant's operations emit particulate matter (coal handling) and VOCs (latex binder). Emissions are controlled using fabric filters, full enclosure, wet suppression (as appropriate), and by limiting fuel and binder usage. The emissions limits established for this operation are based on annual throughput usage rates, equipment capacity,

and control equipment. Particulate emission controls are established to comply with visible emission limits.

Monitoring

Fabric filters used to comply with the Synfuel Plant and crusher emissions must be equipped with a pressure differential device. Fabric filter exhaust stack shall be monitored weekly for visible emissions. Since fabric filter devices are used to control particulate emissions from the Synfuel plant's coal handling operations, CAM review is required. The Synfuel plant's pre-control emissions for coal handling are expected to be less than the power station's coal handling operations, thus the Synfuel plant's fabric filters would be exempt from CAM (see detailed calculations under Section V, "Coal, Ash, Limestone, and Lime Handling Operations").

Recordkeeping

Records shall be maintained of visible emission (VE) observations and any corrective action, fuel throughput, binder consumption, MSDS (latex binder), monthly and annual VOC emissions, scheduled and unscheduled maintenance, results of all VEE, operator training, procedures, and spare parts inventory. Record continuance shall be for the most recent five (5) years.

Testing

The Synfuel Plant shall be constructed to allow for emissions testing at any time using appropriate methods.

Reporting

None required.

GENERAL CONDITIONS

The permit contains general conditions required by 40 CFR Part 70 and 9 VAC 5-80-110 that apply to all Federal-operating permitted sources. These include requirements for submitting semi-annual monitoring reports and an annual compliance certification report. The permit also requires notification of deviations from permit requirements or any excess emissions.

Comments on General Conditions

B. Permit Expiration

This condition refers to the Board taking action on a permit application. The Board is the State Air Pollution Control Board. The authority to take action on permit application(s) has been delegated to the Regions as allowed by §2.1-20.01:2 and §10.1-1185 of the *Code of Virginia*, and the "Department of Environmental Quality Agency Policy Statement No. 2-2003".

F. Failure/Malfunction Reporting

Section 9 VAC 5-20-180 requires malfunction and excess emission reporting within four hours of discovery. Section 9 VAC 5-80-250 of the Title V regulations also requires malfunction reporting; however, reporting is required within two days. Section 9 VAC 5-20-180 is from the general regulations. All affected facilities are subject to section 9 VAC 5-20-180 including Title V facilities. Section 9 VAC 5-80-250 is from the Title V regulations. Title V facilities are subject to both sections. A facility may make a single report that meets the requirements of 9 VAC 5-20-180 and 9 VAC 5-80-250. The report must be made within four daytime business hours of discovery of the malfunction.

U. Malfunction as an Affirmative Defense

The regulations contain two reporting requirements for malfunctions that coincide. The reporting requirements are listed in sections 9 VAC 5-80-250 and 9 VAC 5-20-180. The malfunction requirements are listed in General Condition U and General Condition F. For further explanation see the comments on general condition F.

Y. Asbestos Requirements

The Virginia Department of Labor and Industry under Section 40.1-51.20 of the Code of Virginia also holds authority to enforce 40 CFR 61 Subpart M, National Emission Standards for Asbestos.

TITLE IV ACID RAIN APPLICATION/REQUIREMENTS

The Title IV Acid Rain permit expires December 31, 2007. The requirements from the acid rain permit are incorporated as Section XII of this major source renewal permit. As a result, the Title V permit is designated as an "Article 3" (Acid Rain) permit.

NO_x BUDGET TRADING PROGRAM REQUIREMENTS

Virginia's NO_x Allowance Budget Trading program was promulgated on July 16, 2002. The authority and requirements of the trading program are listed in the Virginia Administrative Code under Chapter 140. All Acid Rain affected sources will require permitting under the NO_x Budget Trading (formerly NO_x SIP Call). Full compliance with Chapter 140 by all affected sources in operation as of November 1, 2002 was required no later than May 31, 2004. Portions of the NO_x Budget Trading program are incorporated in the Article 3 permit by reference.

CLEAN AIR INTERSTATE RULE (CAIR) REQUIREMENTS

The CAIR requirement is incorporated by reference. See comments under "future applicable requirements" section.

STATE ONLY APPLICABLE REQUIREMENTS

Clover has a state operating permit (dated October 28, 2002) to limit daily emissions of arsenic, cadmium, chromium, formaldehyde, chlorine (as HCl), manganese, nickel, and selenium from the main boilers per 9 VAC 5-80-850. These pollutants are part of a non-SIP approved program and are not required to be included in the Acid Rain permit.

FUTURE APPLICABLE REQUIREMENTS

Clean Air Interstate Rule - On March 10, 2005, the EPA signed the Clean Air Interstate Rule. The final rule was subsequently published in the Federal Register on May 12, 2005. The rule will require 28 states (Virginia included) and the District of Columbia to achieve specified emission reductions for new and existing electric generating units (EGUs). Virginia DEQ opted to meet the state's emission budget by requiring EGUs to participate in an interstate cap-and-trade system, administered by the EPA that caps emissions in two stages. Phase I emission reductions begins in the 2009 for NO_x and 2010 for SO₂. Dominion's CAIR application is included as an attachment to this Article 3 permit. Phase II begins in the year 2015 for both pollutants.

In 2009, NO_x Budget Trading Program (NBP) states affected by the Clean Air Interstate Rule (CAIR) will transition to the CAIR annual and/or ozone season programs.

VEPCO 2003 CONSENT DECREE APPLICABLE REQUIREMENTS

Based on recent discussions with EPA Region III, Title IV and Title V permits for the eight plants identified in the VEPCO 2003 Consent Decree (including Clover Power Station) should include applicable requirements for any air pollution controls installed or to be installed during periods when the operating permit is open, such as this renewal. The permittees submitted applicable requirements related to the Consent Decree and such requirements are incorporated under Section XV of the Acid Rain permit.

The permittee's obligations under this permit shall be to comply with the terms and conditions of the Consent Decree that relate to the operation of Clover Power Station exclusively, and such compliance shall be determined exclusively by reference to the terms and conditions of the Decree. Whenever any conflict or ambiguity arises between the Consent Decree and this permit, the terms and conditions of the Consent Decree control. Compliance with the monitoring, recordkeeping, reporting, testing and compliance certification requirements in the Consent Decree that relate to the operation of Clover Power Station shall be deemed to satisfy the monitoring, recordkeeping, reporting, testing, and compliance certification requirements of this permit arising out of the terms and conditions of the Consent Decree.

PERMIT SHIELD & INAPPLICABLE REQUIREMENTS

None identified.

COMPLIANCE PLAN

None.

INSIGNIFICANT EMISSION UNITS

The emission units are presumed to be in compliance with all requirements of the federal Clean Air Act as may apply. Based on this presumption, no monitoring, recordkeeping, or reporting shall be required for these emission units in accordance with 9 VAC 5-80-490 C, E, and F. The insignificant emission units are shown in Section IX of the Acid Rain permit.

STREAMLINE REQUIREMENTS

The following Consent Decree requirements have been streamlined as optional requirements, or less stringent than the current Acid Rain permit:

1. In Condition XV.A.1, the permittee opted for the SO₂ 30-day rolling average emission rate of 0.130 lb/MMBtu, instead of the requirements related to the 95% efficiency removal rate per Paragraph 66.
2. Condition XV.A.5 has been streamlined of the 0.03 lb/MMBtu requirement per the "Alternative Control Pollution Upgrade Analysis" (Paragraph 80). Section III.A.11 of the current permit limits PM emissions to 0.02 lb/MMBtu, which is more stringent. Also, startup and shutdown discussion is excluded since that requirement would be a relaxation of the current permit.

CONFIDENTIAL INFORMATION

The permittee did not submit a request for confidentiality. All portions of the Title V/Acid Rain renewal applications are suitable for public review.

PUBLIC PARTICIPATION

The public notice for this draft Acid Rain renewal permit is scheduled to appear in South Boston's, *The News & Record* on November 12, 2007 and ending on December 12, 2007.

All written comments should be addressed to the following individual and office:

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